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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,674	11/05/2003	Nicholas Gerald Grey	100103.52494C1	6436
30902	7590	04/25/2005	EXAMINER	
SHOOK, HARDY & BACON L.L.P. 600 14TH STREET NW SUITE 800 WASHINGTON, DC 20005-2004			TILL, TERRENCE R	
			ART UNIT	PAPER NUMBER

1744

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,674

Applicant(s)

GREY, NICHOLAS GERALD

Examiner

Terrence R. Till

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 62-64, 67-88, 93, 96, 99-102, 106 and 108-139 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 6 is/are rejected.
- 7) ☒ Claim(s) 106 and 138 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 62-64 and 67-88, as well as any previously pending objected claims, is withdrawn in view of the newly discovered reference(s) to Japanese patent to Hitachi, DE patent to Bieneck (cited in IDS) and Japanese patent to Matsushita (cited in IDS). Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claim 64 is objected to because of the following informalities: Claim 64 is mentioned twice. Once after claim 63 and a second time after claim 108. It is believed the second occurrence will be treated as claim 109. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 62, 63, 67, 84 and 87 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese patent to Matsushita '126 (cited in IDS).

5. The patent to Matsushita discloses a surface cleaning apparatus, comprising: a) a body 1 having a forward compartment and rear compartment; an elongate rotatable brush having bristles 2 and extending across the forward compartment; an electric motor 11 in the rear compartment; and a belt 12 connecting the motor and rotatable brush; wherein a front part 15 of the forward compartment is movable to expose bristles on the elongate rotatable brush at the front part of the

Art Unit: 1744

forward compartment. Matsushita further discloses an intermediate compartment defined by a wall between the forward compartment and the intermediate compartment 8, a wall (see fig. 3) between the intermediate compartment and the rear component, and side walls (see fig. 4) and wherein a wall between the forward and intermediate compartments is inclined rearwardly (curved wall behind brush 2). Also, the wall between the intermediate and rear compartments seals the rear compartment from the intermediate compartment.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 62, 67, 70(67), 71, 73-81, 83, 84, 86, 87, 112, 115, 118, 119 and 121-123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson in view of Japanese patent to Hitachi.

Art Unit: 1744

9. The patent to Mattsson discloses a surface cleaning apparatus, comprising: a body 10 having a forward compartment 13', an intermediate compartment 19 and rear compartment (see figure 3), wherein the intermediate compartment is defined by an inclined wall 18 between the forward and intermediate compartments, a wall (see figure 3) between the intermediate and rear compartments, and side walls (see figure 3), an elongate rotatable brush 13,14 driven by an electric motor 15, the elongate rotatable brush extending across the forward compartment; and a belt 17 connecting the electric motor and elongate rotatable brush. Mattsson also discloses the electric motor is located in the rear compartment, the belt is enclosed within a tunnel that passes through the intermediate compartment, the intermediate compartment includes a tray 19 that can be removed and emptied so as to discharge debris, and wherein the wall between the forward and intermediate compartments is inclined rearwardly. Mattsson does not disclose a front part of the forward wall being (re)movable to expose bristles on the elongate rotatable brush at the front part of the forward compartment. The patent to Matsushita discloses a vacuum cleaner body similar to that of Mattson and further discloses a removable cover 107 to expose the bristles. It would have been obvious to a person skilled in the art at the time the invention was made to provide a removable cover to the device of Mattson in view of the teaching of Matsushita to expose bristles on the elongate rotatable brush at the front part of the forward compartment and replace the brush when worn or damaged. With respect to claims 74, 80, 86 and 122, Mattsson discloses the claimed invention except for the wall between the forward and intermediate compartments has an angle of inclination of from 15 to 20 degrees. It would have been an obvious matter of design choice to modify the wall between the forward and intermediate compartments to have an angle of inclination of from 15 to 20 degrees, since applicant has not disclosed that this angle of

Art Unit: 1744

inclination solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the wall of Mattsson at the angle of inclination shown.

10. Claims 63, 64, 113 and 114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson, as modified by Hitachi as applied to claims 62 and 112 above, and further in view of Watanabe et al.

11. Mattsson, as modified by Hitachi, does not disclose the handle being rotatable about an axial direction. The patent to Watanabe et al. discloses a device similar to that of Mattsson including a handle 6 rotatable about an axial direction of the handle and about an axis transverse to the axial direction of the handle to facilitate steering of the apparatus (see column 5, lines 45-55). It would have been obvious to a person skilled in the art at the time the invention was made to substitute the handle of Mattsson with a handle rotatable about an axial direction of the handle and about an axis transverse to the axial direction in view of the teaching of Watanabe in order to have a more maneuverable cleaning device and ease manipulation by the user.

12. Claims 68, 69, 70(68), 72, 116, 117 and 120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson, as modified by Hitachi, as applied to claims 67, 115 and 119 above, and further in view of Zahuranec et al.

13. Mattsson, as modified by Hitachi, does not disclose one of the side walls being removable to facilitate removal of debris. The patent to Zahuranec et al. discloses of a floor sweeping device similar to that of Mattsson and further discloses one of the side walls, which includes a cover 26 removable to facilitate removal of debris from the tray 60. It would have been obvious to a person skilled in the art at the time the invention was made to modify the

Art Unit: 1744

device of Mattsson to have one of the side walls be removable to facilitate removal of debris in view of the teaching of Zahuranec et al. as both methods of removing debris were art-recognized equivalents at the time the invention was made and either would function suitably. With respect to claim 72, Mattsson, once modified, would have the tunnel is arranged at a side remote from the removable side wall.

14. Claims 82, 88, 111 and 124 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson, as modified by Hitachi, as applied to claims 62, 77, 84 and 112 above, and further in view of German patent to Bieneck (cited in IDS).

15. Mattson, as modified by Hitachi, does not disclose a lower front region of the body being chamfered so that bristles of the elongate brush protrude from the body in the region of the chamfer such that, when the apparatus is inclined relative to a surface to be cleaned, contact between the bristles and the surface to be cleaned is increased. The German patent to Bieneck discloses a sweeping machine having a lower front region (fig. 1- in front of the wheel 3) in which the body is chamfered. It would have been obvious to a person skilled in the art at the time the invention was made to provide a chamfered region in the lower front region of Mattson in view of the teaching of Bieneck in order to expose more of the surface area of the bristles and increase the cleaning ability of the sweeper of Mattson.

16. Claims 85 and 125 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson, as modified by Hitachi, as applied to claims 84 and 112 above, and further in view of Melito et al '258.

17. The patent to Mattsson, as modified by Hitachi, discloses all of the recited subject matter as listed above, but does not disclose a motor switch located at the rear of the housing to control

Art Unit: 1744

operation of the motor. Mattsson makes no mention at all of a switch. The patent to Melito et al. '258 discloses a floor cleaning device having an electric motor 22 driving a rotary brush 40 via a belt (see column 3, lines 10-20) and a switch 50 actuated by a pedal 54 located at the rear of the housing 18. It would have been obvious to a person skilled in the art to provide a switch located at the rear of the housing to control operation of the motor to Mattsson in view of the teaching of Melito et al. '258 as there needs to be some kind of switch to control the operation of motor and having it at the rear of the housing, operated by a foot pedal, allows a user to operate the device without having to bend down.

18. Claims 77-79, 81, 83 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent to Matsushita '126 in view of Melito et al. '258 (both cited in IDS).

19. The patent to Matsushita '126 discloses all of the recited subject matter as listed above, but does not disclose a motor switch located at the rear of the housing to control operation of the motor. The patent to Melito et al. '258 discloses a floor cleaning device having an electric motor 22 driving a rotary brush 40 via a belt (see column 3, lines 10-20) and a switch 50 actuated by a pedal 54 located at the rear of the housing 18. It would have been obvious to a person skilled in the art to provide a switch located at the rear of the housing to control operation of the motor to Matsushita '126 in view of the teaching of Melito et al. '258 as having it at the rear of the housing, operated by a foot pedal, is considered a mechanical equivalent to having it mounted in the handle.

20. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson in view of Melito et al. '258 and German patent to Bieneck (cited in IDS).

Art Unit: 1744

21. The patent to Mattsson discloses most of the recited subject matter as listed above, but does not disclose a motor switch located at the rear of the housing to control operation of the motor. Mattsson makes no mention at all of a switch. The patent to Melito et al. '258 discloses a floor cleaning device having an electric motor 22 driving a rotary brush 40 via a belt (see column 3, lines 10-20) and a switch 50 actuated by a pedal 54 located at the rear of the housing 18. It would have been obvious to a person skilled in the art to provide a switch located at the rear of the housing to control operation of the motor to Mattsson in view of the teaching of Melito et al. '258 as there needs to be some kind of switch to control the operation of motor and having it at the rear of the housing, operated by a foot pedal, allows a user to operate the device without having to bend down. Mattsson also does not disclose a lower front region of the body being chamfered so that bristles of the elongate brush protrude from the body in the region of the chamfer such that, when the apparatus is inclined relative to a surface to be cleaned, contact between the bristles and the surface to be cleaned is increased. The German patent to Bieneck discloses a sweeping machine having a lower front region (fig. 1- in front of the wheel 3) in which the body is chamfered. It would have been obvious to a person skilled in the art at the time the invention was made to provide a chamfered region in the lower front region of Mattsson in view of the teaching of Bieneck in order to expose more of the surface area of the bristles and increase the cleaning ability of the sweeper of Mattsson.

22. Claims 96, 99-102, 126, 129, 132, 133 and 135-137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattsson in view of German patent to Bieneck (cited in IDS).

23. The patent to Mattsson discloses most of the recited subject matter as listed above, but does not disclose a lower front region of the body being chamfered so that bristles of the

Art Unit: 1744

elongate brush protrude from the body in the region of the chamfer such that, when the apparatus is inclined relative to a surface to be cleaned, contact between the bristles and the surface to be cleaned is increased. The German patent to Bieneck discloses a sweeping machine having a lower front region (fig. 1- in front of the wheel 3) in which the body is chamfered. It would have been obvious to a person skilled in the art at the time the invention was made to provide a chamfered region in the lower front region of Mattson in view of the teaching of Bieneck in order to expose more of the surface area of the bristles and increase the cleaning ability of the sweeper of Mattson.

24. Claims 108, 109, 127 and 128 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson, as modified by Bieneck, as applied to claims 62 and 112 above, and further in view of Watanabe et al.

25. Mattson, as modified by Bieneck, does not disclose the handle being rotatable about an axial direction. The patent to Watanabe et al. discloses a device similar to that of Mattsson including a handle 6 rotatable about an axial direction of the handle and about an axis transverse to the axial direction of the handle to facilitate steering of the apparatus (see column 5, lines 45-55). It would have been obvious to a person skilled in the art at the time the invention was made to substitute the handle of Mattsson with a handle rotatable about an axial direction of the handle and about an axis transverse to the axial direction in view of the teaching of Watanabe in order to have a more maneuverable cleaning device and ease manipulation by the user.

26. Claims 110 and 139 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattson, as modified by Bieneck, as applied to claims 96 and 126 above, and further in view of Melito et al '258.

Art Unit: 1744

27. The patent to Mattsson, as modified by Bieneck, discloses all of the recited subject matter as listed above, but does not disclose a motor switch located at the rear of the housing to control operation of the motor. Mattsson makes no mention at all of a switch. The patent to Melito et al. '258 discloses a floor cleaning device having an electric motor 22 driving a rotary brush 40 via a belt (see column 3, lines 10-20) and a switch 50 actuated by a pedal 54 located at the rear of the housing 18. It would have been obvious to a person skilled in the art to provide a switch located at the rear of the housing to control operation of the motor to Mattsson in view of the teaching of Melito et al. '258 as there needs to be some kind of switch to control the operation of motor and having it at the rear of the housing, operated by a foot pedal, allows a user to operate the device without having to bend down.

28. Claims 130, 131 and 134 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mattsson, as modified by Bieneck, as applied to claim 129 above, and further in view of Zahuranec et al.

29. Mattsson, as modified by Bieneck, does not disclose one of the side walls being removable to facilitate removal of debris. The patent to Zahuranec et al. discloses a floor sweeping device similar to that of Mattsson and further discloses one of the side walls, which includes a cover 26 removable to facilitate removal of debris from the tray 60. It would have been obvious to a person skilled in the art at the time the invention was made to modify the device of Mattsson to have one of the side walls be removable to facilitate removal of debris in view of the teaching of Zahuranec et al. as both methods of removing debris were art-recognized equivalents at the time the invention was made and either would function suitably. With respect

Art Unit: 1744

to claim 134, Mattsson, once modified, would have the tunnel is arranged at a side remote from the removable side wall.

Allowable Subject Matter

30. Claims 106 and 138 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

31. The following is a statement of reasons for the indication of allowable subject matter: With respect to claims 106 and 138, it would not have been obvious to a person skilled in the art to have modified the patent to Mattson to have both a movable front section and a lower front portion be chamfered in view of Japanese patent to Hitachi and German patent to Bieneck as modifying Mattson with one reference would preclude using the other as one could not incorporated both changes without rendering the modified device inoperable.

Conclusion

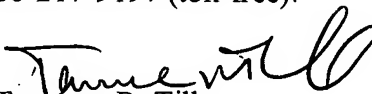
32. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Pino and Genge et al. disclose vacuums with movable front portions. The patent to Worwag discloses a vacuum cleaner with three compartments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Till whose telephone number is (571) 272-1280. The examiner can normally be reached on Mon. through Thurs. and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sun U. Kim can be reached on (571) 272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Terrence R. Till
Primary Examiner
Art Unit 1744

trt